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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/873,999 06/12/97 GOBELI

G 5899-A-01

QM12/0707

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EXAMINER

YARNELL, B

ART UNIT

PAPER NUMBER

3739

DATE MAILED:

07/07/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**08/873,999**

Applicant(s)  
**Gobeli**

Examiner  
**Bryan Yarnell**

Group Art Unit  
**3739**



☒ Responsive to communication(s) filed on Apr 24, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-43 is/are pending in the application.

Of the above, claim(s) 36 and 37 is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-35 and 38-43 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 1.5 & 4

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## DETAILED ACTION

### *Election/Restriction*

1. Applicant's election of the species represented by Figure 9 (9A & 9B) in Paper No. 7 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 36 and 37 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 38-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 38, line 7, the "quarter wave plate" lacks antecedent basis.

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***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-9, 11-24, 27-31, 33-35, and 38-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cote et al. (US Patent No. 5,788,632) in view of Pezzaniti et al. (US Patent No. 5,788,632) and Kuhls (US Patent No. 5,687,721). Cote et al. discloses a optical glucose sensor apparatus and method in which a guided polarized beam of light is directed at the eye so that the beam is generally parallel to an iris of the eye. See Figures 1 and 2. In addition, according to Figure 12, a polarizer, 14, 1/4 wave plate, 16, rotating polarizer, 22, an analyzer, 34, and a detector, 38, are used in the measurement. In regard to claims 15, 21, 29, and 40, Cote et al. states on column 7, lines 47-56, that a Faraday rotator compensator can be used to compensate for the rotation due to the optically active substance, glucose, in the anterior chamber of the eye. Cote et al. does not specifically teach the measurement technique of applying a signal to a polarization modulator to extinguish the light passing from the analyzer to the detector in order to be representative of the concentration of glucose in the eye.

Pezzaniti et al. teaches an alternative apparatus and method for the noninvasive measurement of optically active compounds such as glucose. Column 4, line 66, to column 9, line 67, discloses mathematically the procedure one would use to perform the required function..

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Additionally, column 11, line 11-13, also suggests that in the analysis, the polarization seen by the analyzer would have to be "manipulated."

Kuhls teaches another alternative apparatus and method for the noninvasive measurement of optically active compounds such as glucose. The abstract and columns 8-10 further suggest the measurement requirement that a polarization modulator should be rotated in the analysis. Thus, it is the position of the Examiner, that it would have been obvious to one skilled in the art to modify the teachings of Cote et al. with Pezzaniti et al. and Kuhls to perform the step of applying a signal to a polarization modulator to extinguish the light passing from the analyzer to the detector in order to be representative of the concentration of glucose in the eye so that an alternative, equivalent measurement of glucose concentration can be obtained.

In regard to claims 16, 17, 22, 23, 30, 31, 41, and 42, Cote et al. does not specifically mention the amount of signal to be applied to the Faraday compensator. However, it is the position of the Examiner, that the ranges required by claims 16, 17, 22, 23, 30, 31, 41, and 42 would be inherent to the use of the Faraday compensator. Therefore, it would have been obvious to one skilled in the art to modify the teachings of Cole et al. to use the required ranges in order to properly account for the polarization rotation due to glucose in the eye.

2. Claims 10, 32, and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cote et al., Pezzaniti et al., and Kuhls as applied to claims 1-9, 11-24, 27-29, 33-35, and 38-42 above, and further in view of Buchert (US Patent No. 5,383,452). Cote et al., Pezzaniti et al., and Kuhls do not teach the use of a lock in amplifier when a null point has been reached.

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Buchert teaches an alternative optical glucose analyzer based on polarization in which Figure 1 and column 9, lines 8-26, state that lock-in amplifiers are known for use in the electronics in order to assist in the determination of the concentration of glucose. Therefore, it would have been obvious to one of ordinary skill in the art to modify the combined teachings of Cote et al., Pezzaniti et al., and Kuhls with Buchert in order to provide a lock-in amplifier as an additional electronic element that further improves the signal to noise ratio found in the measurement of glucose.

3. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cote et al., Pezzaniti et al., and Kuhls as applied to claims 1-9, 11-24, 27-29, 33-35, and 38-42 above, and further in view of Hecht in "Optics." Cote et al., Pezzaniti et al., and Kuhls do not teach the use of a Kerr cell or Pockels cell for the polarization modulator.

Hecht teaches on pages 316-321 that Kerr cells and Pockels cells are well known optical polarization modulators that are alternatives to Faraday rotators. Thus, it would have been obvious to one skilled in the art to modify the combined teachings of Cote et al., Pezzaniti et al., and Kuhls with Hecht and substitute for the Faraday rotator either a Kerr or Pockels cell as an alternative, equivalent polarization modulator.

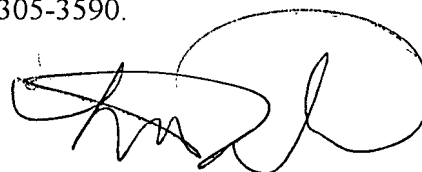
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Yarnell whose telephone number is (703) 308-3173. The examiner

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can normally be reached on Monday through Thursday from 7:30 am to 5:00 pm and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak, can be reached on (703) 308-0994.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0858. The official facsimile transmission number for this art unit is (703) 305-3590.



LINDA C. M. DVORAK  
SUPERVISORY PATENT EXAMINER  
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BKY

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Jun. 16, 2000